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Space and social capital

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Published in:
European Planning Studies

DOI:
[10.1080/09654311003701480](https://doi.org/10.1080/09654311003701480)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2010

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Schutjens, V. A. J. M., & Völker, B. G. M. (2010). Space and social capital: The degree of locality in entrepreneurs' contacts and its consequences for firm success. *European Planning Studies*, 18(6), 941-963. <https://doi.org/10.1080/09654311003701480>

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Publisher: Routledge

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European Planning Studies

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/ceps20>

Space and Social Capital: The Degree of Locality in Entrepreneurs' Contacts and its Consequences for Firm Success

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Version of record first published: 13 May 2010

To cite this article: Veronique Schutjens & Beate Völker (2010): Space and Social Capital: The Degree of Locality in Entrepreneurs' Contacts and its Consequences for Firm Success, *European Planning Studies*, 18:6, 941-963

To link to this article: <http://dx.doi.org/10.1080/09654311003701480>

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Space and Social Capital: The Degree of Locality in Entrepreneurs' Contacts and its Consequences for Firm Success

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(Received March 2009; accepted December 2009)

ABSTRACT *Social capital is valuable for entrepreneurs starting a business. Although many small businesses are located at the entrepreneurs' dwelling, little is known about entrepreneurs' local ties and their relevance for firm success. Distinguishing between local and non-local social capital, this contribution looks at the following:*

- (1) *The availability of local social capital*
- (2) *The relation between social capital and local social capital, and characteristics of firms and entrepreneurs*
- (3) *The relation between social capital and local social capital and firm performance*

Analysing data from the Survey of the Social Networks of Entrepreneurs, which contains information on entrepreneurs and their networks in 141 Dutch neighbourhoods, this study finds a positive relation between social capital and firm performance.

1. Introduction

In the last decennia, a host of research has demonstrated the importance of social capital in almost every domain of an individual's life. However, drawing general conclusions on the consequences of social capital is difficult, since theoretical approaches, measurements, sampling strategies and even methods of analysis widely differ among these studies. In general, a micro level and a macro level perspective on social capital can be discerned, the former focusing on individual relationships, the latter on collective goods, for example, on shared trust or norms in larger entities, such as communities, regions or states. Within the micro level perspective of social capital, which will be applied in this

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paper, most studies focus on *returns* of social capital, the benefits one has through the social relationships one can access and mobilize in times of need. In particular, the importance of social relationships has been demonstrated for getting a job (De Graaf & Flap, 1988), getting a house (DiMaggio & Louch, 1998; Röper *et al.*, 2009), and staying healthy and having a longer life (Berkman & Syme, 1979). There are also studies showing that social capital is actually a valuable resource when *doing* the job, that is, people who bring more social capital into the process of work and production perform better (see Völker & Flap, 2004). In this paper, we build upon this line of research on the returns of social capital, while shedding light on two aspects which have not been discussed in the literature so far. First, we inquire into social capital of a particular type of individual: entrepreneurs of small firms, whose business is in, or close to, their place of dwelling. Much of the available literature is on the level of the whole population or refers to workers/employees in one particular firm. Yet it is not known to which degree people who professionally depend on their neighbourhood, such as entrepreneurs who operate locally, also benefit from their network and the social capital in this network. These benefits may accrue to their professional career, for example, their firm performance. Whereas business studies have a long tradition in analysing business networks, inter-firm relationships and their effects on firm performance, the social capital component within these networks has received far less attention (Westlund & Nilsson, 2005).

Second, we inquire into the spatial aspects of entrepreneurial social capital. Within sociology and urban geography, scholars disagree on the importance of the local setting (the neighbourhood) for people's lives and contacts. Some state that neighbourhood contacts are losing significance because the current ease to communicate over long distances provides ample opportunities to interact with others who live far away (Guest & Wierzbicki, 1999). Others claim that the neighbourhood and neighbourhood contacts do still matter for the individual (Friedrichs *et al.*, 2003). Forrest and Kearns (2001) go even further in stating that despite globalization, many people may appreciate locality—and as such, a familiar neighbourhood environment—more than ever. It can be expected that this neighbourhood attachment also holds for local entrepreneurs, who depend on local (market) contacts, and whose professional and personal local networks often intermingle. However, it is still unknown whether this *local* social capital exists and to what extent it relates to firm performance.

In summary, we aim at answering the following research questions:

- (1) To what extent is social capital available in the local neighbourhood of the entrepreneur?
- (2) Does the amount and quality of social capital and of *local* social capital differ according to characteristics of the firm as well as the entrepreneur?
- (3) Is social capital and local social capital of entrepreneurs associated with good performance of their local businesses?

In our focus on entrepreneurs' social contacts we also aim at mitigating the gap between sociology and entrepreneurship studies. This bridge has already been called for by Stuart and Sorenson (2005, p. 226): "... much of the work in the field of entrepreneurship per se merely invokes the metaphor of a network—very little of this research systematically deploys the theory and methodology that has been developed in sociology. In this

regard, we see a tremendous opportunity for research on networks and entrepreneurship directly grounded in the insights from the sociological literature ...”.

2. Background: The Theory of Social Capital

The literature on social capital has grown enormously over the last two decades—and it is still growing. This is not only due to the usefulness of that theory, but also to the broadness of the concept of social capital. There are a number of perspectives on social capital among which the clearest distinction can be made between social capital as an individual resource and social capital as a particular quality of collective entities. The first perspective is popular in sociology and proposed by scholars, such as Burt (1992), Flap (1988) and Lin (2001). The main idea is that persons with more and better social capital will be better able to realize their goals. The second perspective, social capital as a collective good, is more prominent among political scientists and social geographers (Putnam, 1993, 2000; see Halpern (2005) for a review on issues related to the social capital theory). The two perspectives, on individual and on collective level social capital, are complementary rather than contradictory. Yet, it should be noted that the macro level view of social capital differs from the micro perspective in the sense that in the collective social capital approach, (social) investments by individuals are not always necessary and both costs and returns have collective good characteristics. This means that “freeriding” may occur. For example, as Putnam (2007) pointed out, one can benefit from a close-knit neighbourhood without having many contacts oneself, because neighbours watch all the houses.

In our contribution, we focus on social capital at the micro level and deliberately neglect macro aspects, because we want to inquire into returns of concrete relationships for a particular category of individuals, local entrepreneurs. Therefore, we stick to the micro perspective of social capital and conceive social capital as the access to resources provided by “ties to others”. In this perspective, social capital is a “second order” resource (see Bourdieu, 1980); that is, resources of the network members to which one gains access through individual ties. The basic assumptions of the theory of social capital are rather straightforward and comprise only two statements (see Flap & Völker, 2004). First, those with more and better social capital are better able to realize their goals. Second, people will invest in ties to the degree that these ties are instrumental to achieving their goals. While the first statement gives clues on the consequences of having and using social capital, the second statement helps to find hypotheses on the conditions under which people create social capital. In particular, this leads to the expectation that ties to people with many resources, i.e. people who are higher on the social ladder, will probably be most instrumental and therefore desired as a new network member. People who are already in the highest social strata will probably form ties to others similar to themselves, since there are no others available who provide higher access (see also McPherson & Smith-Lovin, 1987). In other words, the idea that people establish ties to others who are expected to be instrumental in the future leads to the expectation of social closure among different strata. Note that this view does not entail collective norms and shared values as necessary dimensions of social capital. Although shared norms and values do influence individual actions, they are a collective characteristic and are beyond our consideration here. From the assumptions of social capital theory,¹ it follows that those who are already in the higher social strata will create more social capital and will likewise

have more and better returns. A second expectation is that access to high prestige social capital within close distance is more limited than access to low prestige social capital, because access to certain others depends also on the supply of these others. To put it differently: there are more plumbers than judges, and as a consequence, there will be more plumbers in a local neighbourhood who can and will be accessed.

In our analyses, we inquire into patterns of social capital among a particular population, while including important individual determinants of social capital in the estimation. A number of individual determinants for social networks and social capital have been pointed out, among which education, age and ethnicity are probably the most important ones (Marsden, 1987). These characteristics affect the composition of people's networks and in turn their social capital. Because higher educated people meet more others and meet more and higher educated others, they have more social capital available. Further, networks of older people tend to be smaller and more restricted due to their decreased mobility, which in turn implies that they have relatively less social capital available. Third, people belonging to a minority ethnic group often have few contacts with people of the majority population and are often lower educated; this gives them less access to social capital. Note that this does not imply that older, lower educated and those from minority groups do not have social ties or social support. They may have large networks and enjoy much emotional support, but they lack the type of social capital we focus on in this contribution, that is, social capital associated with prestige levels, which can be instrumental for the performance of the firm.

Furthermore, it is not known to what degree local social capital has the same determinants and effects as general social capital. We expect, however, that higher education results in more non-local access to social capital.

Next to individual determinants of social capital, firm specific characteristics will also matter here. Some firms depend more on contacts than others. A long-established firm can be expected to have a considerable stock of social capital, although it may be the case that firms of a middle age have the richest and largest network, because they have had time to create social capital, yet might not be settled enough to do away with unnecessary ties. In other words, entrepreneurs in middle-aged firms might not know enough about the differential value of social ties and the goal specificity of social capital and hence aim at gathering as much as possible. In addition, the sector of a firm can be expected to be of importance. Entrepreneurs of firms in a sector which is more consumer-oriented, such as personal services and retail can be expected to develop more social capital. Entrepreneurs of locally oriented firms, such as café's, restaurants, bars and shops, presumably know more local people, and as a consequence, also have more access to local people with higher occupational positions, than owners of firms serving non-local markets. The same argument applies to entrepreneurs of older and larger firms, who may have built larger business networks over time. These initially business contacts often develop into personal or social contacts (Schutjens & Stam, 2003). Of course, the location of the firm will matter—is the firm settled in a city or in a village? Due to the larger supply in network members, entrepreneurs in cities are able to have larger networks, which are richer in social capital.

The remainder of our paper is organized as follows. In the next section, we briefly review the literature on social capital and firm performance. In Section 4, we describe the data and variables used in the analyses. Section 5 presents our analyses and in Section 6, we summarize the findings and draw conclusions.

3. Previous Research on Entrepreneurs' Social Capital and Firm Performance

Different forms of social capital will matter for different kinds of returns. For returns related to occupational attainment, the level of access to social capital in terms of occupational prestige is more important than the number of others one can access or the range of social strata that is covered through a network. For a feeling of satisfaction with one's financial situation, it might be more important to also see others who earn less, hence a range of social capital can be expected to have an effect here. The same might hold for subjective health. Finally, for having an open mind (Rokeach, 1960, Laumann, 1973, Marsden, 1987, Larson & Starr, 1991) in particular network range as an indicator of network diversity is expected to have an effect.

The importance of contacts to firm success has its roots in resource-based theory, emphasizing the need to acquire information about and resources for producing and delivering products and services (Penrose, 1959). With respect to these contacts, Westlund (2006) argues that a distinction should be made between social capital within (internal) and outside (external) of the enterprise (p. 52). For small, young and local firms with only limited internal company relations, external social capital is of crucial importance. According to Westlund, a firm's external social capital has three components: production-relations (links within the value chain); market-relations (general customer relations) and environment-relations (links to other local/regional decision makers or enterprises) (Westlund, 2006, p. 52). During the life of a firm, all three types of external social capital play a role, although their relative importance may change. In the first stage of firm development, ideas, knowledge and information is needed to identify opportunities. In a second "resource mobilization" stage, entrepreneurs also draw on strategic knowledge, skills and financial capital to identify and reach (new) markets, innovate, cooperate or negotiate with other firms. Social relations are the vehicles to assemble these resources (Stuart & Sorenson, 2005). In line with the different needs in successive stages of the life of a firm life, according to Butler and Hansen (1991), these relations develop from a social network in the process of opportunity identification, to a strategic one in the ongoing business phase. Empirical evidence, however, shows that entrepreneurs themselves mention that formal or business market relations develop an increasingly social character over time (Schutjens & Stam, 2003) and that older firms do not rely more on professional business contacts rather than social ones (Birley *et al.*, 1991). As such, professional business exchanges automatically create, maintain and develop personal relationships and networks, which are therefore closely intertwined (Sjöstrand, 1993; Johannisson, 1996, 2000; Lechner *et al.*, 2006; Stuart & Sorenson, 2008).

In the literature, Penrose's early plea for including resources in the study of firm success got a rather late reaction. From the 1980s onwards, the strategic entrepreneurship perspective used the resource-based theory in its focus on entrepreneurial management of resources (Garnsey, 1998; Stam, 2008). Studies on the interaction between the (social) environment of firms and their entrepreneurs was boosted after the publication of Granovetter's seminal work on the social embeddedness of economic action in 1985 (Granovetter, 1985). Within the perspective that "... firms act in relational spaces rather than anonymous market spaces." (Schutjens & Stam, 2003, p. 115), the professional and social networks of firms and entrepreneurs—and their effects—became the research focus of many scholars (Johannisson, 1996, Aldrich, 1999, Podolny, 2001, Hoang & Antoncic, 2003, Stuart & Sorenson, 2008; for an extensive literature review see Street

and Cameron, 2007). At the level of the entrepreneur, the size and the range of the social and business network influences access to strategic resources. This has led Brüderl and Preisendörfer (1998) to use the phrase “network success hypothesis” (Witt, 2004). Indeed, this type of social capital can be seen as a productive (Staber, 2007, p. 507) or even strategic asset for entrepreneurs to develop their businesses (Hansen, 1995; Brüderl & Preisendörfer, 1998; Lechner & Leyronas, 2007; Rutten & Boekema, 2007; Watson, 2007; Sleutjes & Schutjens, 2008).

With regard to the view on social capital described above, the literature on the effect of access to specific occupational positions on firm performance is scarce (Soetanto & van Geenhuizen, 2009). Although in sociology, it is recognized that prestige of network members influences an actor’s occupational attainment there is limited empirical evidence in entrepreneurship studies. There are some exceptions, however. With respect to firm formation, it has been found that high prestige entrepreneurial role models trigger academics to start-up a firm themselves (Stuart & Ding, 2003). Empirical evidence for later firm development stages is shown by Lechner *et al.* (2006), who found that reputational networks of young firms not only decrease the time it takes to break even, but also positively influence firm sales levels.

In the absence of studies on prestige or occupational status of network members on firm performance, we may apply the literature on heterogeneity or diversity in network relations, which can also be applied to variation in prestige levels of network members. The relevant question here is to what extent is there a large and heterogeneous network beneficial to a firm’s performance? Indeed, social networks may even be counter-productive, for example by inhibiting innovation (Westlund & Bolton, 2003). Empirical evidence is not straightforward. On the basis of a study of the New York clothing industry, Uzzi (1996) claims that mutual trust in repeated and close interactions enhances the transfer of tacit knowledge, which increases firm innovation and performance. Contradictory empirical evidence has been reported by Sorenson and Waguespack (2006), who found that after controlling for investment size, repeated interactions may be disadvantageous for firms in the film sector. This is in line with Granovetter (1974/1995), who states that persons in loose networks can benefit from the presence of knowledge in various parts of the network. As such, a wide range of different contacts would be beneficial to the firm. This is supported by the empirical findings of Watson (2007) emphasizing a positive relation between network range and total income growth. Similarly, from their survey of venture-capital financed firms, Lechner *et al.* (2006) conclude that it is not business network size, but business network diversity that influences firm sales growth. A recent study on the impact of business network characteristics on university spin-offs showed a significant positive effect of network heterogeneity on employment growth (Soetanto & van Geenhuizen, 2009).

Lechner’s *et al.* (2006) study is valuable for the study presented here as it differentiates between types of entrepreneurial contacts, and more specifically, includes a reputational aspect. Affiliation with credible firms or entrepreneurs may help to overcome liabilities of especially new or small firms. In our study, we follow the research design of Lechner *et al.* (2006) in comparing the explanatory power of a control model to a model including several network characteristics. However, our approach differs in three respects. First, we focus on social capital measured by accessed prestige level via the personal contacts of the *individual* entrepreneur, whereas Lechner *et al.*, differentiated between four types of networks, only one of which consisted of reputational relationships

strategically created and developed by the entrepreneur to increase firm credibility (Lechner *et al.*, 2006, p. 528). Second, we employ different measurements of personal networks, e.g. extensity of the network and mean accessed prestige. Third, we include a spatial aspect by measuring the effect of local social capital on firm performance.

4. Data and Measurements

4.1. Data

Building upon the *Survey of the Social Networks of the Dutch*, a large scale panel study on networks of the inhabitants in 141 representative Dutch neighbourhoods in 40 municipalities, we interviewed 385 local entrepreneurs in exactly these neighbourhoods about their firm, networks and local environment (*Survey of the Social Networks of Entrepreneurs*, SSNE, 2008). The entrepreneurs not only have a firm which is located in the neighbourhood, but they also live in, or very close, to this neighbourhood (within 10 min walking distance maximum). The neighbourhoods are at the five-digit postal code level, which corresponds with the area people assess as their direct local environment. Initially, this postal code area was deliberately chosen to minimize the route of a postman, as this area is easy to walk and usually without large physical barriers. On average, such an area covers 230 addresses. In each neighbourhood, on average between two and three entrepreneurs were interviewed.

4.2. Measurements

Social capital. Social capital was measured using the position-generator items (Lin & Dumin, 1986; Lin *et al.*, 2001; Van der Gaag *et al.*, 2008). We asked each respondent, “Do you know anyone among your relatives, friends, or acquaintances who has one of the following positions? (“Knowing” means that you and the person can recognize each other and also greet each other, as well as that you know this person’s first name and that you could have a short talk with each other)”. As such our focus is on only one of the types of a firm’s external social capital: environment-related relations (Westlund, 2006). A list of 30 occupational titles then followed, ranging from the lower to the upper social strata, (see Table 1). Next the occupational titles were recoded into prestige scores. To estimate the prestige scores, the occupational titles were coded according to the Standard International Codes for Occupational Prestige Scale (ISCO) constructed by Ganzeboom and Treiman (1996). Several parameters were generated from the 30 occupations:

- (1) *Extensity*—the number of occupations a respondent accesses from this list; Lin *et al.* (2009) call this general social capital.
- (2) *Upper reach*—the highest prestige level in the accessed occupations.
- (3) *Mean reach*—the sum of prestige in the accessed occupations divided by the number of occupations accessed.
- (4) *Range*—the difference between the highest and lowest accessed occupational prestige scores. The four indices were also generated for the local network, as we explicitly asked where this contact person lives (indices 5, 6, 7, 8). Finally, we computed the (9) *Share of local extensity*—dividing *extensity* by *local extensity*.

Table 1. Position generator and differential access to *social capital* ($n = 385$)

Prestige rank	Position (ISCO-prestige score)	Respondent accessing (in %)			
		None	Family	Friend	Acquaintance
1	Lawyer (86)	53	14	12	21
2	Judge (86)	80	4	5	11
3	Physician (84)	48	15	15	22
4	Policy maker (82)	62	11	12	16
5	Architect (76)	60	10	11	19
6	Director of firm (67)	45	16	19	20
7	Union leader (66)	92	2	3	4
8	Scientist (65)	65	13	13	9
9	Broker (64)	63	6	9	22
10	Real estate counsellor (64)	77	5	6	13
11	Technician (63)	51	22	12	15
12	Teacher (62)	39	21	17	23
13	Police officer (54)	64	10	9	17
14	Bookkeeper (52)	39	16	15	30
15	Secretary (52)	53	19	10	18
16	Insurance agent (52)	69	9	5	17
17	Plumber (50)	59	11	8	22
18	Farmer (46)	48	23	10	19
19	Musician (45)	45	17	21	18
20	Nurse (44)	38	30	14	18
21	Engine driver (44)	90	3	1	6
22	Cook (39)	57	14	11	18
23	Barber (35)	57	14	6	24
24	Truck driver (26)	56	16	11	17
25	Postman (26)	79	4	4	12
26	Sales person (22)	50	21	9	20
27	Butcher (21)	76	7	3	15
28	Cleaning person (20)	74	6	4	16
29	Unskilled worker (15)	72	9	6	13
30	Construction worker (15)	33	31	12	25

Source: SSNE (2008).

Table 1 gives descriptive information on the access to the different occupational positions through social ties. The strength of the ties that provide access to various positions is measured by an additional interpretative question: “Is this person that you know in this position family, a friend or an acquaintance?”.

The table reveals that entrepreneurs’ access differs considerably between the positions listed. Interestingly, many entrepreneurs have contacts in a large variety of positions, for example, about three quarters know a construction worker and about half know a lawyer. On average, the entrepreneurs access 15 of the 30 positions provided. Most of the positions are accessed via family or acquaintances, while friends are least often mentioned. Focusing on the strength of the tie that provides access, we found that access via acquaintances is by far not always the most frequent one, although this is what one would expect, since acquaintances, which are weaker ties, enhance the core range of contacts. Often, most positions are accessed via strong ties to family members. Also the summary statistics show that entrepreneurs have ample access via family ties: the range of positions is largest

for access through family. In addition, the upper reach is also slightly higher for family than for acquaintances.

Table 2 shows whether the positions accessed are also in the entrepreneur's neighbourhood. In the questionnaire, we defined the neighbourhood as the area that can be covered within 10 min walking distance. As expected, the upper prestige positions are accessed more often outside the neighbourhood, as these positions are rarer than lower prestige positions. The latter can be found more frequently within the neighbourhood.

Firm performance. We included three firm performance indicators, as assessed by the entrepreneur. We asked them about profit growth and employment growth in the past two years. Next to these more "objective" indicators, we used the entrepreneurs' satisfaction with firm developments in the past two years, a more "subjective" indicator.

Table 2. Position generator and differential access to *Local Social Capital* ($n = 385$)

Prestige rank	Position (ISCO-prestige score)	Respondent accessing (in %)			
		None	Non-local (outside neighbourhood)	Local (within neighbourhood)	Share of accessed positions local (within neighbourhood)
1	Lawyer (86)	53	28	19	40
2	Judge (86)	80	14	6	31
3	Physician (84)	48	36	16	31
4	Policy maker (82)	62	21	16	44
5	Architect (76)	60	23	17	43
6	Director of firm (67)	45	31	23	42
7	Union leader (66)	92	3	5	59
8	Scientist (65)	65	23	13	36
9	Broker (64)	63	18	19	51
10	Real estate counsellor (64)	77	13	11	47
11	Technician (63)	52	21	27	56
12	Teacher (62)	39	32	29	48
13	Police officer (54)	64	19	17	47
14	Bookkeeper (52)	39	30	30	50
15	Secretary (52)	54	24	23	49
16	Insurance agent (52)	69	17	14	46
17	Plumber (50)	59	15	26	63
18	Farmer (46)	48	25	27	52
19	Musician (45)	45	30	25	46
20	Nurse (44)	38	33	30	48
21	Engine driver (44)	90	7	3	33
22	Cook (39)	57	23	21	48
23	Barber (35)	57	17	26	60
24	Truck driver (26)	56	19	25	58
25	Postman (26)	79	7	14	66
26	Sales person (22)	50	21	29	59
27	Butcher (21)	76	11	13	54
28	Cleaning person (20)	74	9	18	67
29	Unskilled worker (15)	72	11	17	61
30	Construction worker (15)	34	27	39	59

Source: SSNE (2008).

Control variables at the entrepreneurial (individual) and firm level. The control variables concerning individual characteristics of the entrepreneur:

- (1) Age: in all analyses, we inquired into the possibility of a curvilinear association between age with the outcome variable (plus age squared to control for nonlinear relationships);
- (2) Gender;
- (3) Dutch nationality;
- (4) Level of urbanization: we controlled for the degree of urbanization in the area where the respondent lived. We did so because one can argue that the number and the density of addresses in the living environment determine access to others in general and hence to resources and social positions in particular. We used the codes provided by the Dutch Central Bureau of Statistics (CBS, 2001);
- (5) Years of residence in the neighbourhood;
- (6) Previous activity: labour market position (employee) before becoming an entrepreneur.

The control variables on the firm level included:

- (1) Firm size in 2006;
- (2) Firm size in 2008;
- (3) Team ownership: having a business partner;
- (4) Sector (industry) in seven categories;
- (5) Firm age (in two categories).

Human capital. This is measured through the highest education level attained (three categories) and the entrepreneur's personal income (in nine categories).

Entrepreneurial prestige. We coded the firm activities of the entrepreneur, combined with firm size, into occupational titles and estimated the corresponding prestige scores according to the ISCO constructed by Ganzeboom and Treiman (1996).

A first exploration in Figure 1 compares local mean reach with total mean reach and with the share of local extensity and relates these to a person's own prestige (in three categories). While in general both local mean reach and total mean reach increase with an entrepreneur's prestige, the share of local positions drops considerably. This suggests that our expectation about a positive relation between individual prestige and the prestige of others is correct, at least in a simple bi-variate analysis. In addition, it shows that those who are already higher on the social ladder have also more high prestige access to local social capital, although in general their network is far more non-local.

Table 3 provides an overview of descriptive statistics of the variables used in the analyses.

5. Results

We analysed our data in two steps. First, we looked into the question of who has created more (local) social capital and second, we studied the returns of social capital. Sections 5.1 and 5.2 present the regression models on the creation or distribution of social capital and

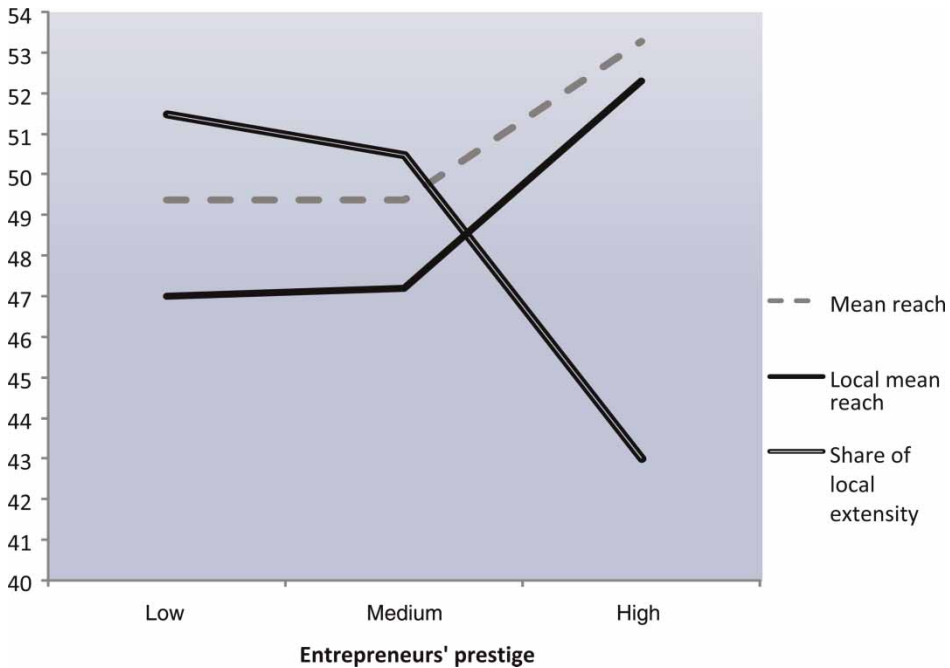


Figure 1. Social capital indices in prestige accessed by prestige level of entrepreneur.

local social capital respectively. Section 5.3 presents the results on the consequences of social capital.

5.1. *Entrepreneurs' Social Capital and Local Social Capital*

5.1.1 Extensity: number of positions accessed. The size of the network of entrepreneurs in terms of knowing many people with different positions is not influenced by firm characteristics nor career, residential background or living in urbanized areas (see Table 4). Only a few personal characteristics matter to network size. The initial effect of ethnic entrepreneurs having larger networks disappears when other factors are controlled for, however, one-sided tests still show an association. In the absence of the main effect of age, the negative relation between age squared and number of positions accessed indicates that only after a certain age the network becomes smaller. As one would expect, education is positively related to the number of accessed positions. Finally, we did not find that an entrepreneur's prestige had an effect on the number of accessed positions.

5.1.2 Mean reach: average prestige of position accessed. Table 5 shows that in larger cities, the average positions accessed by entrepreneurs is slightly higher than in areas characterized by a lower population density; presumably this is a supply effect, as in urban areas more high prestige jobs, and therefore more people, can be found. Also being of Dutch origin is positively related to the average prestige level of network members. An unexpected finding is the significant and negative association between length of personal residence in the neighbourhood and average prestige level of the

Table 3. Summary of key variables used

SSNE	%	Mean	SD
<i>Dependent variables</i>			
Extensity		12.0	5.6
Upper reach		79.5	10.8
Range		59.6	14.6
Mean reach		50.5	8.6
Local extensity		6.0	5.1
Local upper reach		69.2	16.6
Local range		41.4	23.7
Local mean reach		48.5	12.9
Share of local extensity		48.3	29.9
Profit growth (past 2 years)			
No	50.7		
Yes	49.3		
Employment growth (past 2 years)			
No	89.9		
Yes	10.1		
Satisfaction with firm development past 2 years			
No	23.3		
Yes	76.7		
<i>Control variables entrepreneur</i>			
Sex			
Female	29.1		
Male	70.9		
Age ^a		50.2	10.6
Degree of urbanization			
<500 addresses per km ²	21.3		
500–1000 addresses per km ²	25.2		
1000–1500 addresses per km ²	19.7		
1500–2005 addresses per km ²	20.3		
>2005 addresses per km ²	13.5		
Dutch nationality (born and parents born in NL)			
No	10.9		
Yes	89.1		
Years of residence in the neighbourhood		18.0	13.7
Previous activity			
Other than job	27.9		
Job (employee)	72.1		
<i>Control variables firm</i>			
Firm size in 2006			
No employee	51.2		
One employee	24.5		
More than one employee	24.3		
Firm size in 2008			
No employee	51.9		
One employee	25.0		
More than one employee	23.1		
Business partner(s)			
No	72.6		

(Continued)

Table 3. Continued

SSNE	%	Mean	SD
Yes	27.4		
Sector			
Retail	16.1		
Hotel/eating and drinking places	3.9		
Personal services/private education	9.9		
Business services	34.8		
Cultural activities	7.5		
Manufacturing and construction	16.1		
Other	11.7		
Firm age			
0–5 years	25.1		
6–10 years	21.1		
11 years or older	53.8		
<i>Key variables</i>			
Education			
No tertiary education	27.5		
Lower tertiary education	29.1		
Higher tertiary education	43.3		
Monthly net income			
Less than €500 per month	5.2		
Between €500 and €1000 pm	9.6		
Between €1000 and €1500 pm	15.6		
Between €1500 and €2000 pm	12.7		
Between €2000 and €2500 pm	21.6		
Between €2500 and €3000 pm	11.9		
Between €3000 and €3500 pm	8.8		
Between €3500 and €4000 pm	3.4		
€4000 pm or more	11.2		
Occupational prestige		52.0	13.9

Note: Imputation for non-response on monthly net income (about 11%) was based on a regression estimation with number of employees and average firm profit rates in annual sales over the past two years as independent variables.

^aVariable is centred around the mean.

positions accessed. It is interesting in this respect that age of the firm is associated with accessing on average higher positions, suggesting that entrepreneurs may meet and know people with high prestige positions *through* their professional (firm) contacts. Furthermore, entrepreneurs without a business partner develop on average higher social capital than team-entrepreneurs. This suggests that the business partner may constitute a resource so important that no other ties are necessary. Furthermore, entrepreneurs active in local sectors, such as retail and hospitality, or in the manufacturing and construction sector, are associated with lower positions accessed. Again, a higher education level has a positive effect as it relates to a higher mean reach. Inclusion of education level in the model has two interesting consequences. First, it increases the positive association between being of Dutch origin and knowing people in high positions. Second, it decreases the effect of urbanization on the average prestige level of accessed positions, illustrating the positive correlation between urbanization and education level. Finally, we find that entrepreneurs' prestige itself does not matter to the average prestige level of the positions accessed.

Table 4. Determinants of *social capital: number of positions accessed (extensity)* (OLS regression; source: SSNE, 2008; standardized coefficients)

	β			
	Socio-demographic characteristics (controls)	Added: firm characteristics (controls)	Added: human capital	Added: personal prestige
Gender (male)	0.009	0.002	−0.007	−0.009
Age	−0.037	−0.078	−0.083	−0.083
Age squared	−0.092*	−0.105*	−0.101*	−0.100*
Origin (Dutch)	−0.090*	−0.078	−0.062	−0.063
Urbanization	−0.048	−0.072	−0.076	−0.075
Years of residence in neighbourhood	0.006	0.035	0.054	0.055
Previous activity (job)	−0.009	−0.015	−0.021	−0.023
Business partner (yes)		−0.011	−0.008	−0.008
Firm age (<i>ref: <6 years</i>)				
6–10 years		0.041	0.040	0.038
11 years or older		0.064	0.058	0.055
Firm size in 2008		−0.008	−0.021	−0.020
Sector (<i>ref: other</i>)				
Retail		−0.031	−0.009	−0.010
Hotels/eating and drinking places		0.056	0.078	0.076
Personal services		0.057	0.057	0.054
Business services		0.170*	0.154*	0.145
Cultural activities		0.057	0.059	0.056
Manufacturing/construction		−0.018	0.011	0.010
Education (<i>ref: no tertiary education</i>)				
Lower tertiary education			0.098	0.098
Higher tertiary education			0.168**	0.164**
Personal income			0.033	0.032
Prestige entrepreneur (uens92)				0.018
Constant	14.341***	13.117***	11.327***	11.082***
Observations	350	340	337	336
Adjusted R^2	−0.003	0.002	0.013	0.010

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

5.2. Entrepreneurs' Local Social Capital

5.2.1 Local extensity: number of accessed positions in the neighbourhood. Table 6 shows access to *local* social capital. With regard to the socio-demographic characteristics, we find that entrepreneurs in densely populated areas have less local network relations; their social network is largely non-local. As expected, a long-established residence in the neighbourhood increases the number of local contacts, as is being of non-Dutch origin (one-sided test are, however, significant). Some firm characteristics also matter to local network size, such as business sector or having a business partner. Having a business partner is positively related to the number of local contacts; also firms in the hotels/bars/restaurants sector have relatively large local networks.

Table 5. Determinants of *social capital*: average prestige of positions accessed (mean reach) (ordinary least square (OLS) regression; source: SSNE, 2008; standardized coefficients)

	β			
	Socio-demographic characteristics (controls)	Added: firm characteristics (controls)	Added: human capital	Added: personal prestige
Gender (male)	0.021	-0.042	-0.039	-0.040
Age	0.283***	0.175**	0.104*	0.105*
Age squared	0.014	0.013	0.016	0.016
Origin (Dutch)	0.029	0.056	0.091**	0.090*
Urbanization	0.174*	0.128**	0.096**	0.096**
Years of residence in neighbourhood	-0.235***	-0.203***	-0.150***	-0.149***
Previous activity (job)	0.005	-0.008	-0.020	-0.021
Business partner (yes)		-0.160***	-0.136***	-0.136***
Firm age (<i>ref</i> : <6 years)				
6–10 years		0.016	0.022	0.021
11 years or older		0.138**	0.133**	0.132**
Firm size in 2008		0.065	0.034	0.034
Sector (<i>ref</i> : <i>other</i>)				
Retail		-0.175**	-0.108*	-0.108*
Hotels/eating and drinking places		-0.117**	-0.086	-0.087
Personal services		-0.103	-0.107*	-0.109*
Business services		0.100	0.061	0.056
Cultural activities		0.068	0.058	0.056
Manufacturing/construction		-0.234***	0.174***	-0.175***
Education (<i>ref</i> : <i>no tertiary education</i>)				
Lower tertiary education			-0.061	-0.061
Higher tertiary education			0.293***	0.291***
Personal income			0.040	0.040
Prestige entrepreneur				0.010
Constant	48.948***	49.813***	46.487***	46.270***
Observations	349	339	336	335
Adjusted R^2	0.103	0.229	0.318	0.316

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

These might be businesses that are also more locally oriented, with regard to customers as well as their most important suppliers. Finally, the effect of education is of interest: people with lower tertiary education tend to have more local contacts than entrepreneurs with no tertiary education level. Reflecting on Table 4, it seems that in general the higher educated have *more* network ties, but the medium educated concentrate on more *local* network relations.

Table 6. Determinants of *local social capital: number of accessed positions in the neighbourhood (local extensity)* (OLS regression; source: SSNE, 2008; standardized coefficients)

	β			
	Socio-demographic characteristics (controls)	Added: firm characteristics (controls)	Added: human capital	Added: personal prestige
Gender (male)	0.069	0.099*	0.077	0.074
Age	-0.135**	-0.100	-0.070	-0.069
Age squared	-0.088	-0.093*	-0.087	-0.086
Origin (Dutch)	-0.104**	-0.084	-0.082	-0.083
Urbanization	-0.134**	-0.131**	-0.119**	-0.119**
Years of residence in neighbourhood	0.143**	0.133**	0.127**	0.129**
Previous activity (job)	0.011	0.020	0.029	0.027
Business partner (yes)		0.109*	0.099*	0.099*
Firm age (<i>ref: <6 years</i>)				
6–10 years		0.052	0.047	0.045
11 years or older		0.030	0.024	0.022
Firm size in 2008		0.097*	0.091	0.092
Sector (<i>ref: other</i>)				
Retail		-0.061	-0.074	-0.075
Hotels/eating and drinking places		0.104*	0.115*	0.112*
Personal services		0.085	0.087	0.083
Business services		0.013	0.014	0.005
Cultural activities		0.050	0.058	0.055
Manufacturing/construction		0.004	0.005	0.004
Education (<i>ref: no tertiary education</i>)				
Lower tertiary education			0.132**	0.132**
Higher tertiary education			0.014	0.010
Personal income			0.050	0.049
Prestige entrepreneur				0.020
Constant	7.618***	5.746***	4.757***	4.507**
Observations	350	340	337	336
Adjusted R^2	0.040	0.058	0.065	0.063

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

5.2.2 Local mean reach: average prestige of position accessed in the neighbourhood. Table 7 shows the local mean reach of our entrepreneurs. Entrepreneurs who belong to an ethnic minority have actually less social capital in terms of prestige of positions accessed locally. Older firms clearly have relatively good access to local high prestige network members. Furthermore, those who have a business partner have a low average prestige of their local social capital. Operating in business services contributes to the average level of entrepreneurial local social capital. Finally, again, high education is positively related to the average occupational position accessed locally.

Table 7. Determinants of *local social capital: average prestige of positions accessed in the neighbourhood (local mean reach)* (OLS regression; source: SSNE, 2008; standardized coefficients)

	β			
	Socio-demographic characteristics (controls)	Added: firm characteristics (controls)	Added: human capital	Added: personal prestige
Gender (male)	-0.013	-0.083	-0.085	-0.085
Age	0.175**	0.050	-0.012	-0.012
Age squared	-0.030	-0.035	-0.034	-0.034
Origin (Dutch)	0.050	0.076	0.107**	0.108**
Urbanization	0.117**	0.081	0.057	0.057
Years of residence in neighbourhood	-0.135**	-0.094	-0.048	-0.048
Previous activity (job)	0.013	0.010	-0.016	-0.016
Business partner (yes)		-0.166***	-0.141***	-0.141***
Firm age (<i>ref: < 6 years</i>)				
6–10 years		0.004	0.012	0.012
11 years or older		0.154**	0.155**	0.155**
Firm size in 2008		-0.003	-0.029	-0.029
Sector (<i>ref: other</i>)				
Retail		-0.049	0.008	0.008
Hotels/eating and drinking places		-0.066	-0.041	-0.041
Personal services		-0.068	-0.079	-0.078
Business services		0.210***	0.151*	0.152*
Cultural activities		0.104	0.087	0.088
Manufacturing/construction		-0.120	-0.071	-0.071
Education (<i>ref: no tertiary education</i>)				
Lower tertiary education			-0.021	-0.021
Higher tertiary education			0.294***	0.294***
Personal income			0.044	0.044
Prestige entrepreneur (uens92)				-0.002
Constant	46.037***	45.180***	40.019***	40.086***
Observations	325	315	312	311
Adjusted R^2	0.031	0.141	0.213	0.210

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

5.3. Returns of Entrepreneurs' Social Capital

In the next step, we analyse how social capital and local social capital are related to the success of a firm. As described in the section on measurements, we use nine different indicators of both social capital and firm performance (see also Table 8).

With respect to profit growth, we did not find any association between social capital and firm performance, after controlling for characteristics of the entrepreneur and the firm, with the exception of a positive relationship with the highest prestige level and with the range in positions accessed. Large profits go hand in hand with knowing high prestige people and having network members with widely different positions. We did find more evidence for a positive relationship between social capital on the one hand, and employment growth and satisfaction with firm developments on the other hand.

Table 8. Returns of *social capital: firm performance by nine social capital indices* (for all firms/firms in locally active sectors) (OLS regression; source: SSNE, 2008; standardized coefficients)

Effect of on profit growth	... on employment growth <i>all firms</i>	... on employment growth <i>firms in locally active sectors</i>	... on satisfaction with firm developments
Extensity	ns	ns	ns	0.084***
Upper reach	0.023*	0.049*	ns	ns
Range	0.022**	0.042**	0.085*	0.023**
Mean reach	ns	ns	ns	ns
Local extensity	ns	0.075*	0.180**	0.056*
Local upper reach	ns	ns	0.099*	ns
Local range	ns	ns	0.076*	ns
Local mean reach	ns	ns	ns	ns
Share of local extensity	ns	0.017**	0.026*	ns

Note: Controlled for the effects of: entrepreneur characteristics (sex, age, age_2, origin, education level, position, personal income, urbanization level, number of years residing in neighbourhood, former employee) and firm characteristics (business partner, firm size in 2006, firm age, sector); ns, not significant.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

Focusing on employment growth, we again find that the range of positions accessed is important. Having access to persons with utterly different positions positively relates to employment growth. Also the share of local extensity plays a role suggesting that local orientation in an entrepreneurs' network goes together with job growth. Note, however, that causality might be reversed here, which calls for further inquiries using longitudinal data (see below). The association between social capital and employment growth is even stronger when we focus on a specific subgroup, namely on firms active on local markets, such as hotels/bars/restaurants and retail firms. Next to the positive association with total range in positions accessed and local extensity, local upper reach and local range are also important. Among these firms which are active on local markets, the association between the local extensity of the personal network and employment growth is much stronger than for all firms.

Focusing on satisfaction with recent firm development, we found that it is not local ties as such, but more general social capital that is important. Extensity (the size of the network), positively and strongly relates to entrepreneurs' satisfaction with a firm. Again the range in the accessed prestige of entrepreneurs' plays a role, as it fuels personal satisfaction with recent firm performance. From all the local social capital indices in this study, only the number of positions accessed locally tends to relate positively to satisfaction with recent firm developments.

6. Conclusion

A number of conclusions can be drawn from our study. First of all, entrepreneurs in Dutch neighbourhoods have a rich and diverse social network that they can access and mobilize in

times of need. Interestingly, access is more pronounced via strong ties and not, as found in many other studies (mostly conducted in the US) via weaker ties. It is a task for future research to inquire more deeply into the question whether this finding is typical for Dutch entrepreneurs or even a general characteristic of the Dutch population. Furthermore, in our attempt to combine social network insights from sociology with spatial proximity issues from economic geography, we found that social capital and local social capital closely relate to personal and firm characteristics. Social capital has a clear spatial dimension. Furthermore, several of our parameters measuring social capital are associated with firm performance in the expected positive direction, even when we control for entrepreneur and firm characteristics.

In successively answering the three research questions posed in the introduction, we first conclude that social capital is indeed available in the local neighbourhood of entrepreneurs. However, the share of occupational positions and prestige accessed *locally* declines with the educational level of entrepreneurs. Second, both general and local social capital can be explained through individual characteristics of the entrepreneur, but firm characteristics also significantly contribute to the explanation. As expected, the attained educational level is positively associated with both extensity and mean prestige reach. Quite unexpected is our finding that occupational prestige of the entrepreneur does not relate to number of positions accessed nor to average prestige accessed, both general and locally. In other words, neither the “like-me” hypothesis nor the “status hypothesis” seems to be valid here (Laumann, 1966). One would expect that entrepreneurs either search for others with the same prestige—this is the prediction of the “like me” hypothesis; or that they prefer contacts to others who are higher on the social ladder—this is the “status” hypothesis. However, we found no association between entrepreneurs’ prestige and prestige accessed when other factors are controlled for. Our third research question was on the association between social capital and firm performance. Our findings underline the relevance of social capital for firm development, as some positive associations between our social capital measurements and firm performance indicate. The coefficient for performance, when it is measured more objectively by assessed profit and employment growth and more subjectively by assessed satisfaction with firm development, remained stable, even after controlling for individual (entrepreneurial) and firm characteristics. These relations, all in the expected direction, are most prevalent in analysing the entrepreneurs’ satisfaction with past firm performance, but we also find significant estimates when looking at employment and even profit growth. For firms that serve—and therefore depend on—local markets, it is especially the case that the local network in terms of extensity, upper reach and range positively relates to employment growth over the past two years.

7. Discussion

Our empirical study on both general and local social capital at the individual level, that is, entrepreneurs of local firms in Dutch neighbourhoods, generates a number of new insights.

First, our explanation of the average accessed prestige is better than the explanation of the number of accessed positions. In both analyses, however, the educational level of the entrepreneur is the strongest predictor. Social capital measured by occupational prestige also differs between types of firms (with respect to business partner, firm size and firm age) and industries. This finding points to a tight interdependency between the firms and the entrepreneurs’ personal network. In general, entrepreneurs who have no Dutch

background have lower than average accessed prestige than Dutch entrepreneurs. Non-Dutch entrepreneurs have no or only few ties to “high status” persons.

Second, regarding firm performance, we did not find any significant effects of the individual prestige of the entrepreneurs studied, which might seem a plausible expectation at first sight. This suggests that firm performance has less to do with personal prestige of the entrepreneur, or status, but with other capabilities regarding managing and running a business. Entrepreneurial skills in recognizing opportunities and acting upon them (Shane & Venkataraman, 2000), or skills in acquisition, recruitment, planning and innovative or competitive strategy are probably stronger drivers of business success in terms of profit or employment growth.

Third, again with respect to firm performance, once more it is demonstrated that social capital matters, even when traditional entrepreneurial and firm characteristics are taken into account. This may be of interest to urban neighbourhood renewal programmes in which attention to the economic dimension is growing (van Meijeren & Ouwehand, 2007; North & Syrett, 2008). According to the Dutch neighbourhood renewal programmes, the alleged contribution of small local firms and their active entrepreneurs to a thriving neighbourhood economy and in the end to an improvement of the neighbourhood has different dimensions. Firms may create meeting places for local inhabitants, which enhances contacts and social interaction, and increase access to local goods and services. Furthermore, their entrepreneurs may act as local role models for others. Finally, there is some empirical evidence that entrepreneurs are active neighbourhood participants as they relatively often intervene in local social and physical disorder (Crommentuijn *et al.*, 2007). Our empirical findings contribute to understanding the alleged neighbourhood benefits of local firms in pointing at a two-way relationship between firms and local social context, as not only local firms influence neighbourhoods, but in turn, a varied and large local network positively relates to firm success.

The obvious policy implication of our finding is that local firms benefit from large and high prestige networks, and more specifically, local contacts. We would recommend investments in facilitating neighbourhood network activities and improving easy access to, and information about, potential local contacts and their resources.

Our study has some limitations. First, the mechanism through which size of the networks and level of occupational prestige accessed become effective is still not quite clear. What do these network members actually do which helps an entrepreneur and the firm to perform better? Are the costs of getting help lower through a large and status rich network? Related to this, help may simply be a by-product of an interaction with a very different goal. We do not know whether network members are deliberately chosen for a certain goal or activity or whether this is a by-product of another activity (Westlund & Nilsson, 2005). Following the same line of reasoning, we also do not know whether help which is provided is an action of investment in the other person or a reciprocal action that repays previously received help. Second, in the absence of longitudinal data, we cannot draw conclusions on causality. Is firm growth influenced by a large range of occupational positions accessed, both general and local, or does firm growth (or size) enforce and increase network size and occupational status accessed in this network? Despite the fact that we found strong associations in our analyses, only a follow-up of this survey among the same entrepreneurs will help to identify the causal direction of the associations. A third limitation briefly mentioned above is that our study at the level of the entrepreneur does not investigate the ties or contacts themselves. We can therefore not disentangle the

complex mechanism by which network extensity and level of occupational status influences entrepreneurs and their firm. Our future studies on similarity between network partners and the impact of role models on entrepreneurship will focus on exactly these processes and consequences of support. Fourth and finally, it is beyond the scope of this study to include specific neighbourhood characteristics that may have strong effects on the number and level of occupational positions accessed locally, as neighbourhoods substantially differ in socio-economic population structures. We welcome new investigations in this supply-side effect on entrepreneurial networks, and more generally, in the interactions between local social and physical neighbourhood features and entrepreneurs and their consequences for firm development. From our paper on the interdependency between (local) social capital and firm success intriguing questions arise which call for sound answers. We are only just at the brim of understanding the complex interdependency between the “economic” and the “social” in the study of local firms and their owners.

Note

1. See also Bourdieu (1980), Burt (1992); Flap and Boxman (2001) who apply this micro level perspective on social capital and emphasize its instrumental value.

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